

What is claimed is:

1. A CBN cutting tool for high-quality, high-efficiency cutting comprising cutting portions formed by cBN-based sintered bodies, characterized in that each of said cBN-based sintered bodies has an end flank, a side flank, an arcuate nose, a rake face and a negative land formed between said rake face and said arcuate nose, said negative land and said rake face defining a ridgeline therebetween which extends from point Q1 at which said end flank, rake face and negative land intersect each other to point Q2 at which said side flank, rake face and negative land intersect each other, said end flank and said negative land defining a first cutting edge therebetween, said side flank and said negative land defining a second cutting edge therebetween, said first and second cutting edges extending from an apex P of said arcuate nose to points Q1 and Q2, respectively, said first and second cutting edges being the lowest relative to said rake face at said apex P and rising toward points Q1 and Q2, respectively, and wherein a straight line connecting said apex P and point Q1 forms an inclination angle θ' of not less than 20 degrees and not more than 35 degrees with respect to said rake face.
2. The CBN cutting tool for high-quality, high-efficiency cutting of claim 1 wherein said arcuate nose has a radius of curvature of not less than 0.4 mm and not more than 1.6 mm, and an apex angle α of 55 to 90 degrees.
3. The CBN cutting tool for high-quality, high-efficiency cutting of claim 1 or 2 wherein said negative land has a width W of not less than 0.5 mm and not more than 2.0 mm.
4. The CBN cutting tool for high-quality, high-efficiency cutting of claim 2 or 3 further comprising a substrate made of cemented carbide and having a plurality of corners, each of said cBN-based sintered bodies being

retained on one of said corners, whereby said cBN-based sintered bodies can be alternately used for cutting, said nose of each of said cBN-based sintered bodies having a radius of curvature of not less than 0.8 mm and not more than 1.2 mm, said inclination angle β' being not less than 25 degrees and not more than 32 degrees, said negative land having a width W of not less than 0.5 mm and not more than 1.5 mm.

5. The CBN cutting tool for high-quality, high-efficiency cutting of any of claims 1 to 4 wherein said first and second cutting edges are symmetrical with respect to a bisector of the apex angle α of said arcuate nose.

6. The CBN cutting tool for high-quality, high-efficiency cutting of any of claim 5 wherein said negative land is symmetrical with respect to the bisector of the apex angle α of said arcuate nose, and comprises two surfaces that are inclined in opposite directions to each other relative to said bisector.

7. A method of turning a workpiece having a rotation axis using the CBN cutting tool of any of claims 1 to 6, wherein the CBN cutting tool is cut into the workpiece at a feed rate of not less than 0.1 mm/rev and not more than 0.5 mm/rev with the CBN cutting tool positioned such that the cutting edge inclination angle and the side rake angle are both negative, the end clearance angle, side clearance angle and end cutting edge angle are all positive, the downward inclination angle β of said first cutting edge used as the end cutting edge is 20 to 35 degrees with respect to said rake face, and said apex P is spaced downwardly by not less than 0.5 mm and not more than 1.5 mm from a plane parallel to said rake face and containing the rotation axis of the workpiece.

8. The method of claim 7 wherein a radially outer surface of the workpiece is turned with said apex P spaced downwardly by not less than

0.7 mm and not more than 1.2 mm from said plane at a feed rate of not less than 0.15 mm/rev and not more than 0.5 mm/rev.

9. The method of claim 7 or 8 wherein said workpiece is hardened steel.